

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>U008 0547</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/ CA 03/ 00350</b>	International filing date (day/month/year) <b>13/03/2003</b>	(Earliest) Priority Date (day/month/year) <b>13/03/2002</b>
Applicant  <b>THE UNIVERSITY OF BRITISH COLUMBIA</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 6 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

### 1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☒ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☒ because this figure better characterizes the invention.

8, 8A

☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CA 03/00350

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-11, 13-19, 21-50, 52-56

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-11,13-19,21-50,52-56

NB: Claims 1 - 6, 11, 13 - 19, 21 - 38, 40 - 50, 52 - 56 do not appear to be new or inventive:

Regarding claim 1:

D1 (WO 96/33483) discloses a display comprising:  
a light source comprising a one-dimensional array of light-emitting elements each having a controllable light output (see "patterned backlight" and 17 in D1, page 8, last paragraph - page 9, second paragraph & Fig. 3, 4, 5);  
and  
a spatial light modulator comprising a plurality of controllable elements located to modulate light from the light source (see "liquid crystal modulator" in D1, page 8, last paragraph - page 10, line 4 & Fig. 1, 2, 5).

Regarding claim 52:

D4 (EP 829 747) discloses a display, which comprises all the features recited in claim 52:  
a light source (see "light source" in D4, Fig. 2);  
a first spatial light modulator located to modulate light from the light source, the first spatial light modulator comprising an array of controllable pixels (see "first modulator" in D4, Fig. 2 & col. 5, lines 27 - 37); and  
a second spatial light modulator located to modulate light from the first spatial light modulator, the second spatial light modulator comprising an array of controllable pixels (see "second modulator" in D4, Fig. 2 & col. 5, lines 27 - 37).

Claims 2 - 4, 18, 23 - 28, 36 - 37, 50 are also disclosed in D1; claims 15, 31 - 33, 40 - 46, 49, 54 and 55 are disclosed in combination with D2 (US 2001/0035853); claims 5, 6, 11, 13, 14, 16, 17, 19, 21, 22, 29 - 30, 34 - 35, 38, 47, 48 relate to well known features.

2. Claim : 12

3. Claims: 20, 51

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/03/00350

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G09G3/34 G09G3/32 G09G3/36 G02F1/13357 G02F1/1347

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G09G G02B G02F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 96 33483 A (MAY PAUL ;CAMBRIDGE DISPLAY TECH (GB)) 24 October 1996 (1996-10-24)	1-6,11, 13,14, 16-18, 21-30, 34-37, 47,48, 50,53,56
Y	page 8, last paragraph -page 10, line 4; figures 1-5  page 12, paragraph 2NDLAST -page 13, paragraph 1; figure 8 page 7, last paragraph -page 8, paragraph 2 page 12, paragraph 3  ---	15, 31-33, 40-46, 49,54,55
	-/-	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

18 September 2003

Date of mailing of the international search report

17/12/2003

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/03/00350

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2001/035853 A1 (HARBERS GERARD ET AL) 1 November 2001 (2001-11-01)  paragraphs [0018],[0019],[0038]-[0040],[0045],[0049], [0050],[0060]; figures 1,2,3A ---	15, 31-33, 40-46, 49,54,55
X	WO 01 69584 A (IWATA AKIHIKO ;NAGAI HARUHIKO (JP); NISHINO KO (JP); KAMIZAWA SADA) 20 September 2001 (2001-09-20) -& EP 1 202 244 A (MITSHUBISHI ELECTRIC CORP) 2 May 2002 (2002-05-02) figures 1,18 ---	1
X	EP 0 829 747 A (SEOS DISPLAYS LTD) 18 March 1998 (1998-03-18) cited in the application column 5, line 27 - line 37; figure 2 ---	52
A	US 5 592 193 A (CHEN HSING-YAO) 7 January 1997 (1997-01-07) figures 2-6 ---	1
A	WO 02 03687 A (ADKINS SEAN ;IMAX CORP (CA); ZHOU SAMUEL Z (CA); GIBBON MICHAEL A) 10 January 2002 (2002-01-10) cited in the application figure 1 ---	1
P,X	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 07, 3 July 2002 (2002-07-03) & JP 2002 091385 A (MATSUSHITA ELECTRIC IND CO LTD), 27 March 2002 (2002-03-27) abstract -----	1

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/03/00350

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9633483	A	24-10-1996	WO 9633483 A1	24-10-1996
			GB 2314196 A ,B	17-12-1997
			US 6111560 A	29-08-2000
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US 2001035853	A1	01-11-2001	CN 1383499 T	04-12-2002
			WO 0184225 A2	08-11-2001
			EP 1281103 A2	05-02-2003
			JP 2003532153 T	28-10-2003
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WO 0169584	A	20-09-2001	EP 1202244 A1	02-05-2002
			WO 0169584 A1	20-09-2001
			TW 526369 B	01-04-2003
			US 2002135553 A1	26-09-2002
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EP 0829747	A	18-03-1998	GB 2317290 A	18-03-1998
			CA 2214863 A1	11-03-1998
			EP 0829747 A1	18-03-1998
			US 5978142 A	02-11-1999
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US 5592193	A	07-01-1997	NONE	
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WO 0203687	A	10-01-2002	AU 7887001 A	14-01-2002
			CA 2414723 A1	10-01-2002
			CN 1440617 T	03-09-2003
			EP 1300008 A2	09-04-2003
			WO 0203687 A2	10-01-2002
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JP 2002091385	A	27-03-2002	NONE	
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